

TWO CASES OF HYPERTROPHY OF THE PENIS; ONE DUE TO TRAUMATISM; THE OTHER, TO ELEPHANTIASIS.¹

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THE origin of hypertrophy of the penis is not yet understood; from cases that have been reported to the medical profession, the disease would seem, in some manner, to be associated with injuries to the lymphatic vessels. Robert W. Taylor gives an account of a case where the organ grew to the length of eleven inches, the circumference being proportionately increased after the individual had received a gunshot wound of the lymphatic vessels of the groin. Many instances of hypertrophy of the corpora cavernosa have been detailed; in the *Medical Times* for January, 1875, there is the case related of a man thirty years of age. The organ had commenced to enlarge, when the individual was a boy of six years of age; the integument over the penis being normal.

In the case of the person who came under my charge enlargement seemed to follow traumatism; its history is briefly as follows:

He is an acrobat, thirty-eight years old. Has always enjoyed good health; his family history is negative so far as abnormalities, tumors, or malignant diseases are concerned. Has

¹ Read before the Philadelphia Academy of Surgery, November 7, 1898.

never had any venereal disease. At the age of twenty-five the organ was of normal size. He is married and his wife has borne him two children.

Shortly after his marriage he observed that when he donned his tights, in which he appeared during his exhibitions, that his appearance was quite unseemly. In order to rectify this condition, he devised a harness so adjusted that he could strap the penis to the scrotum between his testicles. For several years he utilized this apparatus when he appeared in the ring; but frequently when performing his gyrations the organ would become twisted, causing pain, tenderness, and swelling, lasting for several days, followed by a subsidence to his normal condition.

After using the apparatus for the space of two years he observed that the organ was increasing greatly in size. This condition was unaccompanied by pain. Finally sexual congress became impossible. Some three weeks before presenting himself at the hospital while attempting to turn professional somersaults with the organ strapped between his legs the foreskin was wrenched, bruised, and slightly chafed; this condition was followed by inflammation and œdema of the prepuce, with suppurating periadenitis of both groins. He begged to have amputation of the penis performed, as the size and weight of the organ had become so great that it was impossible for him to carry on his business.

The penis was of gigantic size; it was of normal shape; the enlargement was uniform; the skin perfectly smooth and healthy, moving freely over the subcutaneous connective tissue. There was no tenderness on pressure. There was an acquired phimosis, with enlarged suppurating glands of both groins. The length of the organ from the pubis to the end of the prepuce was ten and one-half inches; the circumference at the middle of the body was nine and three-quarters inches. (See Fig. 1.)

The patient was circumcised, and on removing the foreskin an enormously developed but perfectly healthy glans was brought into view. The tissue forming the foreskin was normal, and no more bleeding took place than was natural. The glands of the groin were removed without difficulty. Microscopic examination of the foreskin discovered nothing abnormal. The individual recovered promptly from the effect of the operation without any untoward result.



FIG. 1.—Hypertrophy of the penis due to traumatism.



FIG. 2.—Elephantiasis of the penis, before operation.

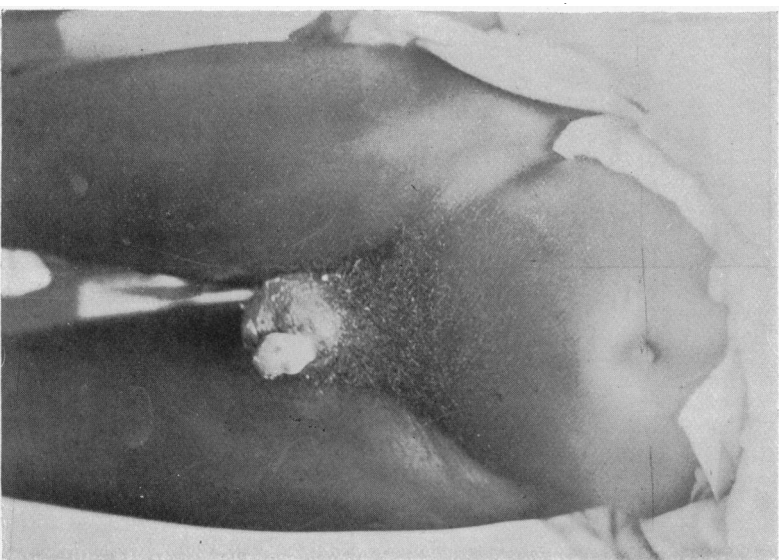


FIG. 3.—Showing result after removal of hypertrophied tissue in case of elephantiasis of the penis.

The differential diagnosis between hypertrophy and elephantiasis of the penis was readily made in this case. The organ had preserved its normal shape, and was symmetrically enlarged; the skin was smooth and normal in appearance and not attached to the subjacent structures, while in elephantiasis there is always hypertrophy of the fibrous structure as well as of the subcutaneous connective tissue; the skin being thrown into numerous furrows running in longitudinal directions and crossed by other furrows which divide the skin into firm, brawny, and elastic nodules. Finally, in elephantiasis the glans is not enlarged, and is generally hidden in the lobular skin of the prepuce, presenting an umbilicated appearance.

ELEPHANTIASIS OF THE PENIS.

Elephantiasis is rarely met with in America or Europe, but sporadic cases are occasionally seen. In the tropics, however, it is often found, and is frequently endemic to certain districts, attacking the organs of generation of both sexes, next in frequency after the lower extremities.

The disease appears to be a hypertrophy of the fibrous tissue of the skin and subcutaneous connective tissue, attacking the last-named structure first. This is followed in time by an increase in the size of the neighboring organs, disturbing the circulation, and giving rise to chronic inflammation of the lymphatic vessels of the part.

It is very unusual for elephantiasis to attack the penis primarily, but it frequently follows involvement of the scrotum. Dr. Thin, in the *Transactions of the London Pathological Society*, 1880, gives a case of elephantiasis of the penis, where no appearance of a multiplication of cells by division could be detected under the microscope, and hence infers that the whole of the cells are derived from the white blood-corpuscles. Lewis, Bancroft, Manson, and Henry have of late years pointed out that elephantiasis, if not caused by, is at least frequently associated with, the presence of a parasite, the *filaria sanguinis hominis*, of which there are three varieties,—*filaria diurna*, *filaria nocturna*, and *filaria perstans*. Of these three

divisions it is probable that the *filaria nocturna*, which gives rise to certain forms of elephantiasis as well as the conditions known as lymph-scrotum and hæmatochyluria, is the most common. The embryos in tropical cases are present in the blood in large numbers at night and almost entirely absent during the day. Stephen Mackenzie asserts that if the patient sleeps during the day and is awake at night the condition is reversed. Osler states that these parasites cannot be found in every case of elephantiasis, and reports two cases coming under his own observation where *filaria* in the exuded fluid or in the blood at night could not be detected. He further observes that the majority of cases of elephantiasis which occur in this country are non-parasitic, while the directly opposite condition pertains in cases occurring in China. The parasite is found principally in tropical climates, and, according to the observations of many American writers, it exists extensively in the Southern States. The *filaria sanguinis hominis* appears in the blood in its embryonal form, and is fully developed only in the lymphatics.

The scrotum is more frequently the seat of the disease than the penis; this organ, as a rule, being affected secondarily. Two cases are reported involving the penis alone, one by R. W. Taylor and the other by R. F. Weir, of New York. In Taylor's case the patient was a young Hebrew, in whom the condition followed an injury to the organ. In Weir's case the hypertrophy followed a stricture of the urethra associated with an abscess resulting in a urinary fistula.

The history of the case which came under my care is briefly as follows:

The individual was a colored man, about forty-five years of age; sailor by occupation. Family history negative. Patient states that he never had any venereal disease. About six months before coming to the Philadelphia Hospital, while at sea, having abstained from sexual intercourse for four months, he noticed a small, slightly elevated, hard lump, about the size of a pea, on the left side of the frænum. This lump increased slightly in size, became irritable, and ulcerated at the base, from the necessary

friction produced by coming in contact with the clothing. Gradually sloughing set in until the tumor hung by a strip of skin which he cut through with a pair of scissors; the resulting raw surface healed rapidly. About three weeks later the entire penis began to enlarge until it gradually reached its present dimensions. He has never had any pain or experienced any difficulty in urination. He has lost slightly in weight.

On examination the glans penis was small and almost entirely hidden by a firm fibrous mass which entirely surrounded the end of the organ. Between the penis and the scrotum there was a distinct line of constriction, the skin of the latter being perfectly normal. The left testicle was easily discovered, but the right testicle could not be found, and was supposed to have undergone atrophy. The skin of the penis was cut up into furrows, running longitudinally, which were crossed by others running more or less obliquely, dividing the organ into lobules, which were hard, firm, and elastic. (Fig. 2.) From the pubis to the glans penis, along the dorsum of the organ, the measurement was eleven inches. The circumference of the mass in its thickest portion was nine and one-half inches. On palpation a distinct doughy sensation was imparted to the touch, but there was no pitting on pressure. A very careful study of the blood was made by my colleague on the staff, Dr. F. P. Henry, but the *filaria sanguinis hominis* could not be detected. The patient's temperature was normal. Sexual power was completely lost. Examination of the urine negative.

The patient was etherized and an incision made along the entire length of the dorsum of the penis, being about ten inches in length. The skin was found to be tough and fibrous, and, on division, a thick, white, elastic, fibrous tissue was exposed, it was impossible at first to identify either the corpus cavernosum or spongiosum. To guard against wounding the urethra a small-sized bougie was passed into the bladder. The tough fibrous tissue was then dissected entirely away from the penis, when a strong thick band was found passing along the entire length of the under surface of the organ, which was formerly attached to the central tendon of the perineum. On removing the fibrous mass from the vicinity of the base of the penis, the missing testicle was found pulled up out of place. It was dissected loose, and replaced in the scrotum. The hæmorrhage, which was not so

profuse as had been expected, was easily controlled by means of hæmostatic forceps, and very few ligatures were required. After the operation an ordinary antiseptic dressing was applied, and the body of the penis allowed to granulate. The complete healing of the wound occupied four months, at the end of which time the patient had entirely recovered. On examination, after recovery, it was found that the newly formed skin was tightly adherent to the body of the organ which held the penis in a horizontal position. The patient stated that he was in perfect health and that sexual powers were completely restored.

A brief abstract from the interesting pathological report, made by Professor H. F. Harris, is herewith appended.

"On microscopic examination the epidermis covering the diseased area is found greatly thinned and the epithelial ridges are almost entirely destroyed. Here and there, however, thin rods of epithelium, which are evidently the remains of these ridges, project down for a short distance into the true skin; the cells of which these rods are composed contain much, almost black, pigment, and they do not react to either basic or acid aniline dyes. Just beneath the epidermis there are numerous rounded masses of more or less entirely keratinized epithelial cells. They are sometimes in contact with the epidermis, but more generally seem to be quite free in the derma proper, without any connection with the epithelial layer. While the cells of which they are composed are in most instances keratinized, in some cases the cells which form the outer boundaries of the masses still preserve the morphologic and staining peculiarities of the younger cells, sometimes those cells are piled upon each other several deep. The epithelial cells of the epidermis, as a rule, preserve their normal size, shape, and general relation to each other, but they do not stain as readily as normal cells. In addition to this, many cells in the prickly layer are swollen to twice the normal size. The protoplasm of these cells is homogenous and takes acid stains faintly, the nuclei stain feebly or not at all. Occasionally a leucocyte can be seen between the cells. The layers of cells which form the deeper portions of the Malpighian layer are almost black from the presence of a dark-brown pigment; the pigment is so dense that the peculiarities of the cells in this situation cannot be made out with certainty.

"The greater part of the tissue is evidently from that part of the penis upon which no hairs occur, but in sections from one of the pieces a few were observed. No changes in the shaft could be made out. The cells of the inner cells of the outer root-sheath are plainly in a state of degeneration; their nuclei stain faintly or not at all, and their protoplasm is faintly colored by the acid dyes. Even the outer cells of the outer root-sheath are elongated and their nuclei are very irregular in form. The cells of the sebaceous glands present more nearly a normal appearance than any of the other epithelial structures, but they are in many cases elongated and take stains poorly.

"Sweat-glands are only occasionally found. The coils are often separated from each other by dense masses of cells. These cells will be referred to later.

"The true skin is enormously hypertrophied. This is principally due to an increase in the amount of collagenous tissue, but not in an inconsiderable degree to the presence of collections of cells around the blood-vessels of this tissue. The collagenous tissue occurs in thick bundles which are almost invariably disposed in planes parallel to the skin surface. In the deeper portions of the skin wall defined fibrils of elastic tissue are often found; they are in general run from the deeper layers of the skin towards the surface. At intervals through the tissue comparatively large, robust bundles of involuntary muscle fibres occur. They are not probably of a new formation, but result from the hypertrophy of the pre-existing muscle of the parts. In the true skin, extending downward for a considerable distance, there are numerous small, very dark pigment masses, generally of a rounded or irregular form. These granules may be seen in the process of formation from the lower layer of the epidermis.

"The blood-vessels are comparatively scant, but those which are present present interesting changes. Contrary to the observations of others, I have found the changes in the arteries much more pronounced than those in the veins. The alterations in the latter consist principally in a marked dilatation of their calibre; in addition to the endothelial cells lining their inner coats shows a marked decrease in their power of taking stains, and in some cases they do not stain at all. Rarely the outer coats of these vessels show marked thickening, and in almost every instance are more markedly cellular than normal. The arteries are all small,

and very frequently their lumen is encroached upon by thickening of their walls, and in these instances the intimas are represented by a structureless hyaline membrane which takes the acid stain. The muscular coats are rarely so stained that their true nature can be recognized. Replacing the muscular coat in many of the vessels are collections of cells which have the appearance of lymphoid cells; sometimes these masses of cells exactly occupy the muscular area, but in other cases they encroach upon the intima and push it inward. The adventitiæ of the vessels are in most instances decidedly thickened, and contain lymphoid and plasma cells. The entire walls of some of the vessels are hyaline; here the intimæ are generally swollen. Occupying the lumina of some of the arteries are yellow, entirely homogeneous masses which take acid stains, but no basic ones, and would appear to be hyaline thrombi. None of these were seen in vessels whose walls were hyaline, but were frequently observed in those the muscular walls of which were infiltrated with cells.

"The perivascular lymphatics are almost always greatly dilated and contain collections of lymphoid and plasma cells; within these collections of cells, usually near their edges, mast-cells frequently occur, but no pyonuclear leucocytes were found.

"Between the bundles of collagenous tissue, and having no apparent connection with the lymphatics of the blood-vessels, are often collections of cells which in every way resemble those just spoken of; whether they are only a part of these masses cut so as not to show the vessels or entirely separate could not be determined. Scattered through the tissue generally plasma, lymphoid, and mast-cells are of frequent occurrence. The tissues are abundantly supplied with characteristically branched connective-tissue cells. None of the cells mentioned are elongated or twisted, as would be supposed to be the case had they been subjected to considerable pressure. A careful study of the section failed to reveal the presence of micro-organisms.

"Attempts to study the nerves of the tissue by Golgi's silver method were unsuccessful, as, is often the case, impregnation did not occur."

(The photographs of these interesting cases were kindly taken for me by Professor Henry W. Stelwagon.)